



## Project description

We spent one-third of our lives asleep. Impaired sleep has a large impact on health and performance, leading to cardiovascular disease and accidents. Novel, cost-effective, powerful diagnostic tools are crucially needed for detecting sleep disturbances at a population level and to gain better knowledge of underlying physiological processes, thereby improving individual health and reducing the burden on national health care systems and economy. Enormous efforts lead by academia and industry are undertaken worldwide to alleviate the effect of sleep disorders.

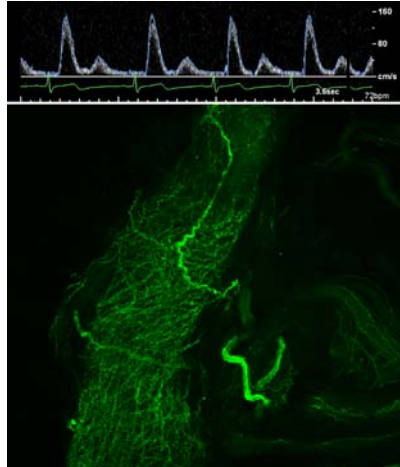
## Key aims

This project aims at elucidating the network of physiological processes during sleep. By creating innovative signal and image processing technologies we seek to develop simple, effective patient screening tools and also improve our basic understanding of sleep disorders. Our highly interdisciplinary team comprises engineers, basic scientists and clinical researchers.

## Relevant Publications

El-Hamad F et al. Altered Nocturnal Cardiovascular Control in Children With Sleep-Disordered Breathing. *Sleep*, 2017, doi: 10.1093/sleep/zsx127

Kontos A et al. Evidence of increased vascular resistance and sympathetic nerve fibre density in arterial vessels in children with sleep disordered breathing. *J Am Heart Assoc*, 2017;6 e006137.



## Student attributes

We seek highly motivated students with a keen interest in interdisciplinary research and an academic background in the following areas:

- Biomedical Engineering
- Digital Signal Processing
- Image Processing
- Machine learning
- Physiology

## For further enquiries

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